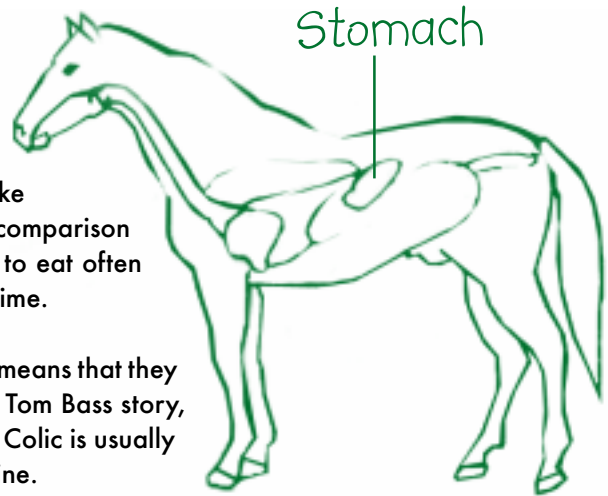


# What Do Horses Eat?

**H**orses have a digestive system that is somewhat like yours. They have a stomach but it isn't large in comparison to their body size. This means that horses need to eat often because their stomach just can't hold very much at one time.

Horses have a small intestine that is similar to yours. This means that they can digest many of the same foods that you can. In the Tom Bass story, you read that the mare, Helen McGregor, died of colic. Colic is usually a disorder where the horse has a lot of pain in the intestine.



The main difference between the horse's digestive tract and yours is that the horse has a very large cecum. In humans, we call ours the appendix. Most people believe that the appendix is not useful. In fact, in humans the appendix sometimes gets infected. Maybe you know someone who has had appendicitis. In horses, their very large cecum is the home to millions and millions of bacteria. Sometimes bacteria are bad because they cause diseases. However, the bacteria in the cecum of the horse are good bacteria. These bacteria digest food that the horse could not digest. For example, you probably know that horses eat pasture (grasses) and hay. The horse can eat all of that grass because of the good bacteria that live in its cecum. These bacteria

digest all of the things in grass that the horse cannot digest. We don't have a large cecum and that's one reason that we don't go out and graze like a horse!



Now we know that horses eat lots of roughage – meaning grasses and hay. Some horses are also fed grain such as oats and corn. This is true for horses that are ridden a lot. However, all horses eat some hay.

## What is hay?

Hay is dried grasses and roughages that are usually made into bales during the summer so they can be fed during the times of the year when the horse can't graze pasture. Some horses are fed hay all year long because they are kept on a farm or in a stable that does not have pasture.

Missouri is the second leading hay producing state in the United States. In fact, last year, more than six million tons of hay were produced just in Missouri! Many different kinds of hay are produced in Missouri for our horses, cattle, goats, and sheep. Some of the best hays for horses are described below.

Alfalfa hay is the most nutritious hay that can be fed to horses. Alfalfa is a legume. This means that it contains a lot of protein, vitamins, and minerals that some horses need. Sometimes, alfalfa contains more nutrients than horses need, so horses are fed other hay.

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(What is hay, continued)

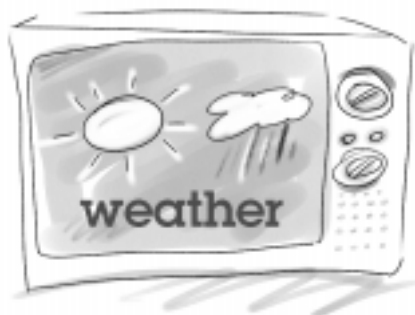
Prairie hay is produced from native prairies. These prairies are fields that have never been plowed. The grasses that grow on a prairie are the same ones that grew when the buffalo roamed over the large prairies of our state. Many people like to feed prairie hay to their horses because they feel that it is a natural feed. It's true that if our horses were wild mustangs living on prairies, they would eat only prairie grasses all year. However, prairie hay may not contain enough protein for some horses.

Timothy hay comes from a grass that is grown in Missouri. Timothy grows best during the cool spring and fall seasons. Timothy is another safe feed that Missourians like to feed to their horses. Other grasses that are similar to Timothy for hay are Bromegrass and Orchardgrass.

## How does a Missouri farmer make hay?

Lets use Timothy as an example. Timothy seed is planted and soon the grass starts to grow. About a year later, during early summer the Timothy grass will have grown several feet tall. The farmer then uses a big mower that is pulled by a tractor to cut the grass. Before the grass is cut, the farmer pays close attention to the weather. The quality of the hay will not be very good if it gets rained on after the grass is cut. The grass is cut and it falls over in the field where it will dry over the next day or two. Drying time will depend on the temperature. The farmer will sometimes rake the hay to turn it over so that it will dry more evenly. When the hay crop is dry enough, the farmer will then bring

a hay baler into the field. The baler is pulled by the tractor, and it will lift the hay from the ground and then press the hay into bales of hay. Each bale is held together with either twine or wire. Bales vary in size. Many bales of hay that are fed to horses weigh about sixty pounds. These bales are shaped like a rectangle but are called square bales. Just as soon as the bales of hay are made, the farmer, someone hired by the farmer, or a machine will pick up the bales of hay so they can be stored in the barn. This is a very hard job because the hay is often being hauled on a very hot summer day. However, this hard work will pay off because the horses have good hay to eat all winter.

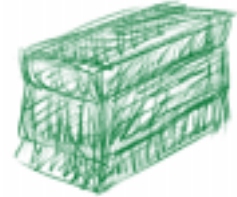


# How Much Hay Do You Need to Buy?

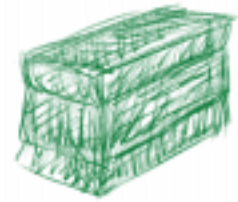
Many people that raise horses like to buy all of their hay once a year. Pretend that you have a horse to feed. Let's do some math problems to help you decide how much hay you will need and how much it will cost.

If you had a horse, what would you name it? \_\_\_\_\_

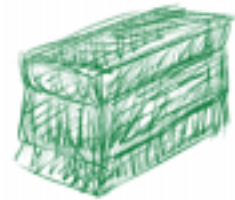
- 1) Assume that your horse needs to eat fifteen pounds of hay per day.  
How many days will one sixty-pound hay bale feed your horse?



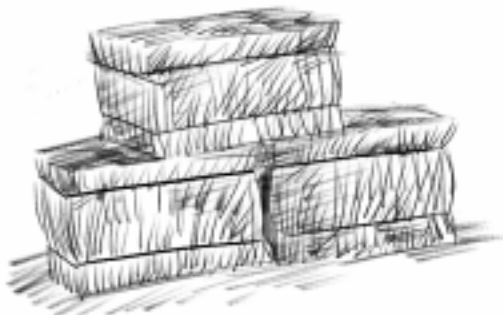
- 2) How many bales will you need for one month?  
Assume that the month has 30 days in it.



- 3) Assume that you are keeping your horse in a stable all year and does not have access to pasture.  
How many bales will you need for one year for your horse? (round to the nearest bale)



For the following questions, REFER TO THIS TABLE that tells the price of Missouri hay.



Kind of hay	Price per bale of hay
Alfalfa	\$ 4.00
Timothy	\$ 3.00
Prairie	\$ 2.50

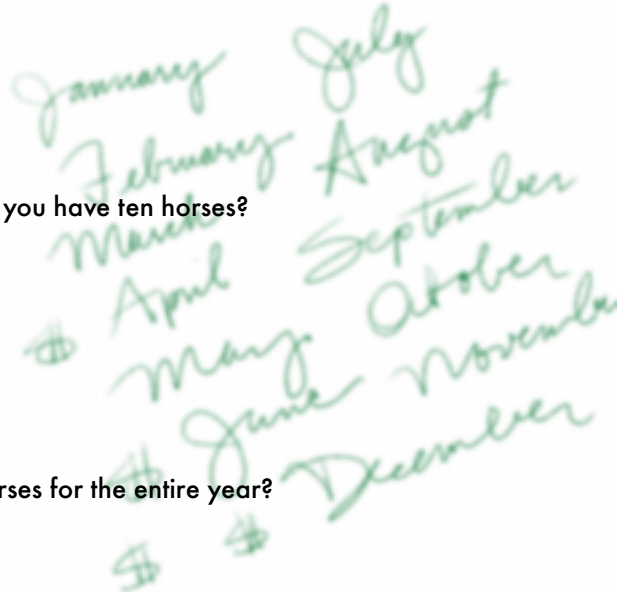
4) How much will you have to spend on hay for your horse this year if you feed **Alfalfa hay**?  
Remember you just figured how many bales of hay you need for the year.

5) How much will you have to spend on hay for your horse this year if you feed **Timothy hay**?

6) How much will you have to spend on hay for your horse this year if you feed **Prairie hay**?

7) How many bales of hay will you need for one year if you have ten horses?

8) How much will it cost for Timothy hay for your ten horses for the entire year?



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The publication is developed and written by Dr. Lyndon Irwin and Barbara Irwin, experienced educators and educational materials developers from Southwest Missouri State University. It has been classroom tested and this issue has also been reviewed by personnel at George Washington Carver National Monument. Design, layout and illustrations ©02 Carla Steck. Teachers may reproduce any pages for use with their students in the classroom.